University of California, Davis Medical Center
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DAILY BLOOD & COMPONENT INVENTORY AND INSPECTION

Administrative Procedure BB2366.A

PURPOSE

To describe procedures on how to:

- Increase resource utilization and decrease blood wastage due to units expired on the shelf.
- Remove the expired donor units from the storage shelf to assure transfusion safety.
- Evaluate and maintain blood and component levels as needed on a daily basis.
- Document daily blood inspection in compliance with regulatory agencies.
- Describe basic response to component storage unit temperature fluctuations occurring during inspection.

PROCEDURES

A. Generating Laboratory Information Systems (LIS) Inventory Reports

1. Transfusion Service personnel performs the following tasks daily:

   a. Print out a **BBK Expiring Units Report**[1] including all units that will expire within next two days (T+1). (See Addendum 1 for LIS keystrokes and Example 1.)

      1) Account for all units on the printout (eg, on shelf, to stock, etc.). Make sure all units are physically found.

      2) Keep the **BBK Expiring Units Report** on the clipboard for the current month and then file in File Cabinet #2.

      3) Check off the daily task list and report to the "A" bench CLS.

   b. Print out a **BBK Unit Status List** on all expired units that have already expired within the past 24 hours. (See Addendum 1 for LIS keystrokes and Example 2.)

[1] When there are many short dated units in stock, print the Expiring Unit Report at the beginning of all three shifts. If printed by an HLT, call short dated units to the attention of the 'A' bench CLS.

1) Remove all expired components from the storage shelves. Dispose of the expired components according to BB2371.A—*Quarantine and Disposal of Blood Components*.

2) Write the disposition next to each entry (eg: discarded, etc.)

3) **Keep the BBK** Unit Status List of expired units on the clipboard for the current month; at end of the month, leave for supervisor review.

4) Check off the **Task/QC/Maintenance Checklist**.(See Example 6)

c. Make sure short dated units are available for priority use; for crossmatched units check patient's hematocrit level and call the patient's ward to see if units may be released.

1) Attach short dated stickers to units outdating within 3 days.

2) Place the short dated reserve units into general stock.

3) Organize the stock units on the appropriate shelves with the shortest dated units at the front of the shelf.

d. Enlist the assistance of the department supervisor when a component is difficult to track. Some examples of resolutions:

1) Call blood supplier to see if a missing unit was ever consigned to UCDMC.

2) Generate a *Status List* in LIS, seeking the specific component entered the same day as the missing unit. (There may have been an entry error.)

3) Review quarantined units that may not have been issued/ transfused in LIS or transferred to Hospital Responsibility.

4) Review blood order forms or exsanguination forms for units that haven't been issued/ transfused in LIS.

2. Daily, print the **BBK Transfusion Report** of previous day (T-1). (See

Example 3) This is the responsibility of the department HLT(s).

a. Includes each component (by unit number) transfused daily to specific patients.

b. Keep the daily reports in the clerical area for the current month and then store in cardboard storage boxes.

B. Performing Inspection

1. Inspect all red cell components for abnormal appearance (purple or brown color, obvious hemolysis[2]), clots, air bubbles or foaming.

   a. Note any abnormal appearance of a component in the "appearance" section of the daily **Inventory Inspection Logsheet**. (Example 4)

   b. Inform shift supervisor of, and quarantine any units exhibiting clots or questionable appearance pending review by Transfusion Services physician or designee. (Refer to BB2371.A – *Quarantine and Disposal of Blood Components*.)

2. Inspect all platelet components stored in the room temperature platelet incubator.

   a. Observe the expiration dates and inspect for abnormal appearance such as excess turbidity, foaming or bubbles and obvious clumping of platelets.

   b. Document on the daily **Inventory Inspection Logsheet** any abnormal appearance and notify the shift supervisor **immediately** of the abnormality. Evaluate, with the supervisor, the final disposition of the component. Contact the Transfusion Services physician or designee when appropriate.

   c. Match the inventory card (Example 5) to each component by unit number, expiration date, and blood grouping.

3. Complete and initial the daily **Inventory Inspection Logsheet** when inspection is completed. Store the sheet on the clipboard for the current month. At the end of the month, leave it for the department supervisor or

[2] See ARC Visual Inspection Guide for comparison to units suspected of being hemolyzed.

designee to review and file with the **BBK Expiring Units Report** in file cabinet #2.

4. During inspection procedure, monitor all storage units for temperature and alarm conditions.

   a. Maintain refrigerators between 1 ºC and 6 ºC, freezers below -18 ºC, and platelet incubators at 20 ºC to 24 ºC.

   b. If the internal temperature of a storage unit falls outside these limits due to doors being left open for inspection, the temperature change will be reflected on the continuous recording chart on each unit.

   c. Write a comment on the chart at the time of the inspection, explaining any chart tracing that exceeds required temperature ranges. Initial, time and date the comment.

   d. Storage units are monitored by UCDMC Plant Operations & Maintenance (PO&M). If a storage unit alarms because of temperature fluctuations, reset the alarm signal. When PO&M calls to inquire, explain the cause of the alarm. Notify the department supervisor or designee if PO&M (Ext. 4-2763) doesn't call within a short time period; the potential lack of signal reception can be investigated.

   e. Refer to the complete procedure BB2333.A – *Monitoring Equipment Temperature*.

C. Maintaining Minimum Blood Component Inventory

1. Using inventory guidelines listed below, place a stock order with blood supplier in time to be delivered on routing courier run. Refer to current delivery schedule posted in the department.

2.

- Stock Packed Red Blood Cells (RBC):

Leukoreduced Red Blood Cells	OP	AP	BP	ABP	ON	AN	BN	ABN
Minimum Inventory	150	50	11	1	30	15	1	0
Stocking Target	180	90	15	2	40	30	2	0
Maximum Inventory	218	110	24	4	52	28	4	0

- Stock Fresh Frozen Plasma (FFP): (Rh Pos or Neg)

  Adult (180-300 mL):

Plasma	O	A	B	AB
Minimum Inventory	40	40	40	50
Stocking Target	80	80	80	100
Maximum Inventory	240	210	92	200

  Pediatric (80 mL)
  AB…...3-5 complete sets

- Cryoprecipitates (cryos):

Cryo Pooled	TOTAL (Any type)
Minimum Inventory	10
Stocking Target	30
Maximum Inventory	90

Cryo Single	O	A	B	AB
Minimum Inventory	0	0	0	4
Stocking Target	5	5	5	5

- Rare Antigenically Screen RBCs (all type O):

  Ordered from blood supplier (monitor this level closely; due to call back time, it is very expensive to order on the weekends and holidays)

8…...K,E,c neg
4…....Jk[a], K neg
2 …...Fya neg
8…….Fya,C, E, K neg
3…….M neg, CPDA-1, CMV neg O negative
2 ……Jkb, K neg
2…….e neg

Screen[3] at UCDMC
2…….K neg
2…….E, K neg
8 ……K,E,C neg.

- Irradiated[4] & CMV Neg Red Cells

Irradiated & CMV Neg	OP	AP	BP	ABP	ON	AN	BN	ABN
Stocking Target	10	10	0	0	10	5	0	0

- Irradiated Red Cells

Irradiated	OP	AP	BP	ABP	ON	AN	BN	ABN
Stocking Target	10	10	0	0	10	5	0	0

- CMV Neg Red Cells :

CMV Neg	OP	AP	BP	ABP	ON	AN	BN	ABN
Stocking Target	20	20	0	0	15	15	0	0

- Order O Neg, O Pos or patient type specific CMV neg prbcs from blood supplier as needed, taking standing order into account, according to current patient population and transfusion needs.

3. Standing orders with blood supplier: See attached schedule

4. Any unneeded consignment component may be returned to blood supplier

[3] Units K,C,E,M neg (or any combination) are screened in-house (UCDMC).
[4] Routine irradiation is done @ UCDMC; in emergency situations, or during times of critical staffing demands, units may be ordered irradiated by the blood supplier.

if components are stored within regulated temperature ranges. (Refer to BB2380.A – *Shipment of Blood and Components*.)

REFERENCES

1. *American Association of Blood Banks Technical Manual* (AABB) Current Edition, American Association of Blood Banks, 8101 Glenbrook Road, Bethesda, Maryland, 20814-2749.

2. *Standards* Committee (American Association of Blood Bank, Standards for Blood Banks and Transfusion Services, Current Edition, American Association of Blood Banks, 8101 Glenbrook Road, Bethesda, Maryland, 20814-2749.

3. CAP www.cap.org Transfusion Medicine (TRM) Waukegan Road, Northfield, IL 60093

4. *Code of Federal Regulation*. April 1, 2004. Title 21, 640.2. http://www.fda.gov

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INVENTORY AND INSPECTION **Administrative Procedure BB2366.A**

PROCEDURE HISTORY

Date	Written/ Revised by	Revision	Approved by	Approved date
11/88	Gwen Williams	New	Hanne M. Jensen, MD	11/88
2/91	Gwen Williams	Revision	Hanne M. Jensen, MD	2/91
11/94	J. Anderson C. During	Discont. Unit count. Revs'd inventory	Hanne M. Jensen, MD	12/19/94
3/95	C. During	Discnt. Exp date check, each unit	Hanne M. Jensen, MD	3/6/95
8/98	J. Huang C. During	Inventory #, expired/expiring reports, chk. list.	Hanne M. Jensen, MD	3/6/95
		Annual Review	Hanne M. Jensen, MD	11/19/96; 12/18/97; 1/5/00
		Annual Review	Hanne M. Jensen, MD	9/14/00;6/6/01;10/ 22/02; 1/28/04*
11/04	C. During	Update plt. Order	Hanne M. Jensen, MD	11/30/04
11/05	C. During, R. Howard	Remove Periodic tasks to new procedure (see 2307.A) Added hemolysis recipe, revised inventory form, added 8x30 standing order.	Hanne M. Jensen, MD	12/2/05
8/1/07	C. During	Update stock levels, add prbc standing order, & delete reference to irradiated plasma	Hanne M. Jensen, MD	8/9/07*
		Annual Review	Hanne M. Jensen, MD	10/14/08, 11/26/09, 9/28/10,12/7/11, 12/5/12
9/17/14	D.Richardson	Revised stock levels, screened reserve	Hanne M. Jensen, MD	9/22/14
11/3/16	D Richardson	Revised stock levels with new blood supplier	Hanne M. Jensen MD	11-8-16

* Annual review in 2003 & 2006 was inadvertently missed.

ADDENDUM #1

1. Sign on the LIS using assigned password.
2. Select **BBK Main Menu**; press Enter.
3. HLT[5] & supervisor, select **UNIT REPORTS**; press Enter. CLSs go directly to specific report.

Expiring Unit Report —short dated units that will expire within 72 hours

1. Select **Expiring Unit**; press Enter.
2. At **From Expiration Date**, delete the default date, enter **T**(oday) and **N**(ow); press Enter
3. At **Through Expiration Date**, enter **T+3** and **2359**; press enter.
4. At **Homologous, Reserved, or Both**, enter B; press Enter.
5. In the **Selection Components** section, press Enter x3 to bypass.
6. At **Print On**, enter **S/PVYO** or **S/PVY**.
7. Press Enter to exit after printing.

Status List (of Expired Units) — units that have already expired during the past 24 hours

1. Select **Status List**; press Enter.
2. **From Status Date** defaults to T-1; press Enter. At **Time**, enter **0000**; press Enter.
3. **Through Status Date** defaults to today. At **Time**, enter **N**(ow); press Enter.
4. At **Status**, enter **EXP** for expired; press Enter.
5. At **Action**, enter **I** for include; press Enter.
6. The **Product** will default; press Enter x4.
8. At **Print On**, enter **S/LO11** or **S/BBPRINT**.
9. Press Enter to exit after printing.

[5] HLT=Hospital Laboratory Technician; CLS = Clinical Laboratory Scientist